

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation				Disposition			
				Completed By			
				Lead hand / Supervisor Approval Verification			
				QC / QA Coordinator Approval			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
OTHER : _____							

Work Order ID 154263***154263***

Page 2

Wednesday, December 07, 2016 10:49:35 A

Item ID: D3480-041**Accept*****N900040100*****Setup Start*****NS1*****Revision ID:****Stop*****NS2*****Item Name:** Eyeball Inlet Adapter**Start Date:** 12/9/2016 **Start Qty:** 2.00***2*****Cust Item ID:****Required Date:** 1/6/2017 **Req'd Qty:** 2.00***2*****Customer:****Reference:****Approvals:****Process Plan:** _____**Date:** _____**Tooling:** _____**Date:** _____**Run Start*****NR1*****QC:** _____**Date:** _____**SPC (Y/N):** _____**Date:** _____**Stop*****NR2*****Sequence ID/
Work Center ID****Operation
Description****Set Up/
Run Hours****Tool ID****Tool #****Plan
Code****Accept
Qty****Reject
Qty****Reject
Number****Insp.
Stamp**

130

Identify as per dwg & Stock Location: St

0.00

130

Packaging

Memo

0.00

Packaging

2-9-89 DAS

JAN 31 2017

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

17/02/01

88-6
21
DAS

JAN 31 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Wednesday, December 07, 2016 10:49:38 AM

Page 1

Work Order ID: 154263

154263

Parent Item: D3480-041

D3480-041

Parent Item Name: Eyeball Inlet Adapter

Start Date: 12/9/2016

Required Date: 1/6/2017

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP rev. A 06.02.07 new issue EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3480-3		Manufactured	No			100	Each	8.0000	1	2			
---------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D3480-3

Tube

**

Location

Loc Qty

Loc Code

Mezz

8

67124

8

2 VS 16/12/19

D3480-5		Manufactured	No			100	Each	1.0000	1	2			
---------	--	--------------	----	--	--	-----	------	--------	---	---	--	--	--

D3480-5

Eyeball Adapter Flange

**

Location

Loc Qty

Loc Code

Mezz

1

64666

1

1 VS 16/12/19

1 VS 16/12/19

154267



CE MATÉRIEL EST PRÊT POUR LA LIVRAISON
THIS MATERIAL IS RELEASED FOR SHIPPING

CLIENT CUST. NAME : DART AEROSPACE

CLIENT B.C. CUSTOMER'S P.O.: P034695 NO. LEV-FAB 229

DESCRIPTION: EYEBALL INLET ADAPTER QTE QTY: 2

DESSIN DRAWING: D3480-041 REV.: C

DATE: 2017-01-25 SIGNATURE: C

F-752 (19 juiv-15)
Rév.: 0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

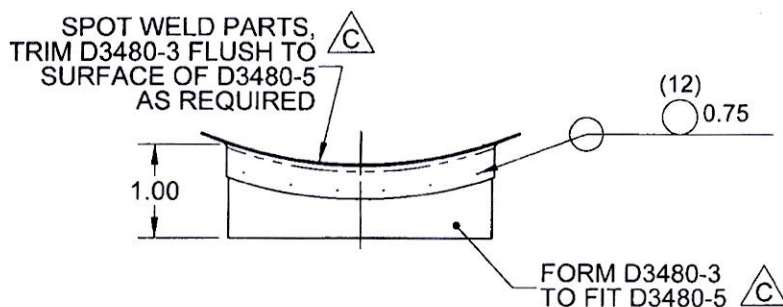
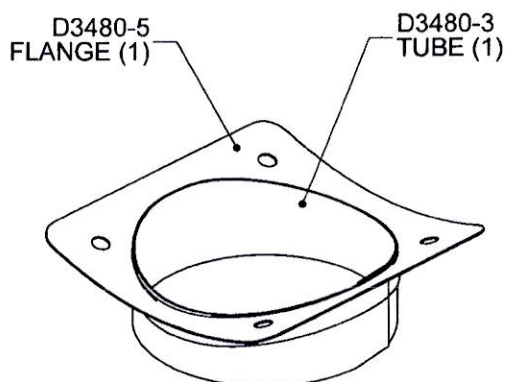
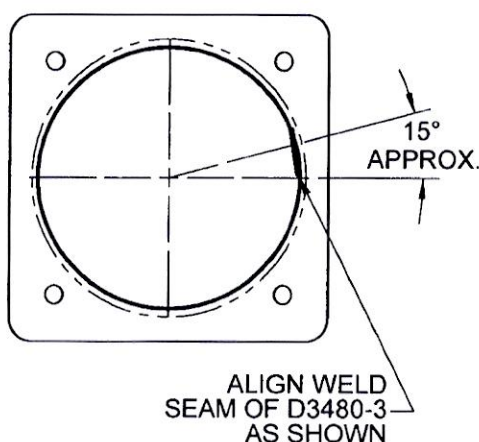
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3480	REV. C SHEET 1 OF 6
DATE 08.12.19		TITLE EYEBALL ADAPTER	SCALE 1:2
A	06.02.06	NEW ISSUE	
B	06.08.29	D3480-3 0.50 was 0.40/D3480-3F 8.930 was 9.330	
C	08.12.19	D3480-3 PICTORIAL CHG PER D3480-3F (SHT 1 & 4); ADD/REV TOL (SHT 3-5); ADD MFG NOTE (SHT 4); MATL SPEC WAS MIL-S-5019	

RELEASE
09/01/30 M/P



D3480-041 EYEBALL INLET ADAPTER

NOTES:

- 1) SPOT WELD PER DART QSI 004
- 2) FINISH: NONE
- 3) IDENTIFY WITH DART P/N D3480-041 USING FINE POINT PERMANENT INK MARKER
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

QTY -041	P/N	DESCRIPTION
X	D3480-041	EYEBALL INLET ADAPTER
1	D3480-3	TUBE
1	D3480-5	FLANGE

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SHOP COPY
RETURN TO
ENGINEERING
INCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 154263 M/S
16-12-03



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34695**

Purchase Order Date 12/21/2016

PO Print Date 1/27/2017

Page Number 1 of 3

Order From :

VC-ROY001

RBC ROYAL BANK - VISA
PAYMENT CENTRE, PO BOX 4016, STAT. A
TORONTO, ON M5W 1X6
CA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via: FedEx Economy collect

Ship Acct:

Buyer

Linda Lacelle

Customer POID

Customer Tax #

10127-2607

Terms

COD

Currency

CAD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	154263 DAS 9 9-89 spot weld per drwg and QSI004	D3480-041	1/27/2017 Yes 1/27/2017		2.00	\$179.95	\$359.91
Line Total:							\$359.90
2	154262 spot weld per drwg and QSI004	D3480-043	1/27/2017 Yes 1/27/2017		2.00	\$179.95	\$359.91
Line Total:							\$359.90
3	154264 spot weld per drwg and QSI004	D3479-041	1/27/2017 Yes 1/27/2017		2.00	\$179.95	\$359.91

JAN 27 2017

DAS
6
9-89

PO Instructions: LEV-FAB
VISA # 4516 0560 0077 4712
CID# 267, EXP 10/20

Note:

1/27/2017

Ship to

DART AEROSPACE
1270 Aberdeen Street
Hawkesbury, Ontario, Canada
K6A 1K7

Contact: Linda Lacelle
Tel: 1 613 632-9577
Fax:

Contact: Linda Lacelle
Tel: 1 613 632-9577 x. 235
Courriel: llacelle@dartaero.com

Order date	Dec 20, 2016
Payment terms	C.O.D. 1 ERE COMMANDE
Customer PO	PO34695
Order no.	229
FOB	Origine
Freight charges	Collect

Line	Item	Rev.	Ref. no.	On order	Ship. qty	Back order	PKG
------	------	------	----------	----------	-----------	------------	-----

1	D3480-041 EYEBALL ADAPTER	C		2 UN	2		0
2	D3480-043 EYEBALL ADAPTER	C		2 UN	2		0
3	D3479-041 EYEBALL ADAPTER	B		2 UN	2		2
4	PROCUREMENT-QUALITY CLAUSE			1 UN	1		0
5	FAT-2-SAMPLES B154684			1 UN	1		0
5	FAT-2-SAMPLES B154684			1 UN	1		0

9-88
 DAS
 JAN 27 2017

Packed by	Date	Name	Carrier name	Pieces	Total
		APOLLO BOUC	VOTRE TRANSPOR		



RÉRONAUTIQUE
LEV-FAB

640 Boul. Mgr Dubois
Saint-Jérôme, QC, J7Y 3L8
Téléphone: 450-438-7164
Ligne Montréal: 514-876-8787
Télécopieur: 450-438-9846
www.lev-fab.com



Nadcap



Canada
Controlled Goods program
Programme des marchandises contrôlées

Fournisseur

A-773

DART AEROSPACE
1270 Aberdeen Street
Hawkesbury, Ontario, Canada
K6A 1K7

Bon de livraison ST001607

Imprimé le 2017-01-24

Page 1/1

Dest.

AER

LEV-FAB Aéronautique
640, Mgr-Dubois
St-Jérôme (Québec) J7Y 3L8

Contact: Linda Lacelle
Tél.: 1 613 632-9577

Fax:

Packed by / Emballé par	Transport	Date d'expéd.
shipping		2017-01-24

Article	Rév.	Descr.	Référence	Qté totale	Poids
D3479-041	B	EYEBALL ADAPTER BEAD PER DART BETWEEN BOTH OPERATION OF SPOT WELD S-trait. ZZ-896 D3479-041-BEAD (PO: A001247)	625-1-41	2 UN	

Signature

Date



AÉRONAUTIQUE
LEV-FAB

640, boul. Mgr Dubois
Saint-Jérôme (Québec) J7Y 3L8
Téléphone : 450 438-7164

CERTIFICAT DE CONFORMITÉ
CERTIFICATE OF COMPLIANCE

CLIENT / CUSTOMER www.lev-fab.com		# ORDRE D'ACHAT / PURCHASE ORDER		DATE
DART AEROSPACE		PO34695		2017-01-24
# DE LA PIÈCE / PART #		NOM DE LA PIÈCE / PART NAME		# DE SÉRIE / SERIAL NUMBER
D3480-041		EYEBALL INLET ADAPTER		N/A
# DESSIN / DRAWING #		REV. DESSIN / DRAWING REV.	CHANGEMENT ADDITIONNEL / ADDITIONAL CHANGE	
D3480		C	N/A	
QUANTITÉ / QUANTITY		# BON DE TRAVAIL / WORK ORDER#		# DE CERTIFICAT / CERTIFICATE #
2		623-1		623-1
ADRESSE DE LIVRAISON / SHIPPING ADDRESS				
DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ON K6A 1K7 CANADA				
INDEX DES PIÈCES, OPÉRATIONS, INSPECTION POUR RÉALISER SOUS-ASSEMBLAGE OU L'ASSEMBLAGE IDENTIFIÉ PLUS HAUT. INDEX OF PARTS, OPERATIONS, INSPECTION TO CARRY OUT SUBASSEMBLY OR ASSEMBLY IDENTIFIED ABOVE.				
MATIÈRE PREMIÈRE / TRAITEMENT / OPERATION RAW MATERIAL / PROCESS / OPERATIONS		DISTRIBUTEUR / DISTRIBUTOR	RÉSULTAT / # CERTIFICAT RESULT / CERTIFICATE #	
Matière première se référer à l'ordre d'achat Raw material refer to PL D3480 FROM DART AEROSPACE (PART LIST): - D3480-3 TUBE - D3480-5		DART AEROSPACE	COMPLETED	
Méthodes / Processes : - Processes: Manufacture as per Drawing Requirement or per attached Notification Requirement, if applicable. - Spot weld per QSI004 - Protect for shipment.		LEV-FAB LEV-FAB LEV-FAB	COMPLETED COMPLETED COMPLETED	
Contrôle Non-Destructif / NDT inspection		N/A	N/A	
Inspection premier article / First article inspection		LEV-FAB	COMPLETED	
Je certifie par la présente que l'article énuméré ci-dessus est conforme, après inspection et essai, aux dessins et aux spécifications indiqués ou cités sur votre bon de commande. I hereby certify, that above article has been inspected and tested and conforms to the drawings and/or specification quoted on, or referenced by your Purchase Order.				
Signature		Date 2017-01-24		



F-CC (Avril 2016)



Accredited
Canada

Controlled Goods program
Programme des marchandises contrôlées

PAGE 1 OF 3]

**VERIFICATION - RAW MATERIALS, SPECIFICATIONS, SPECIAL PROCESSES
AND FUNCTIONAL TESTING.**

[illegible]

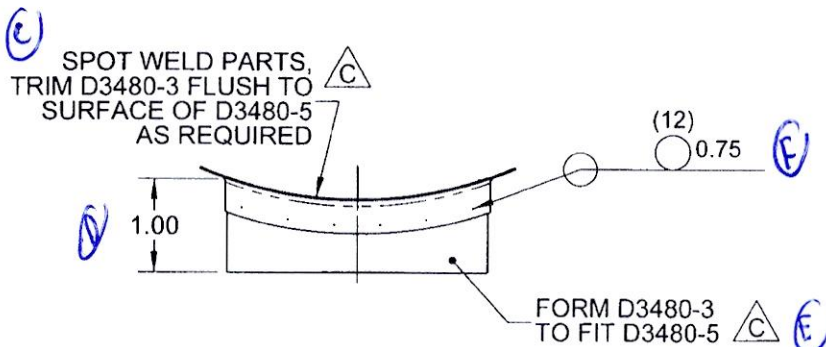
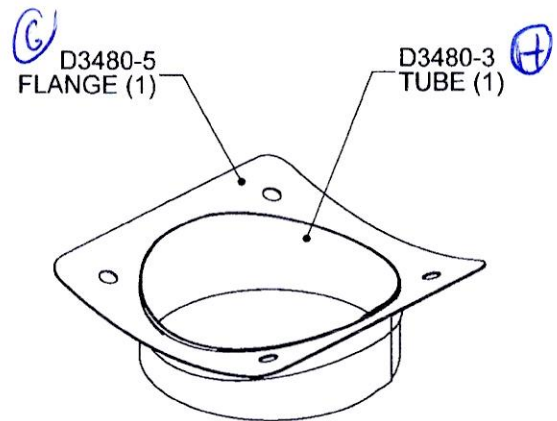
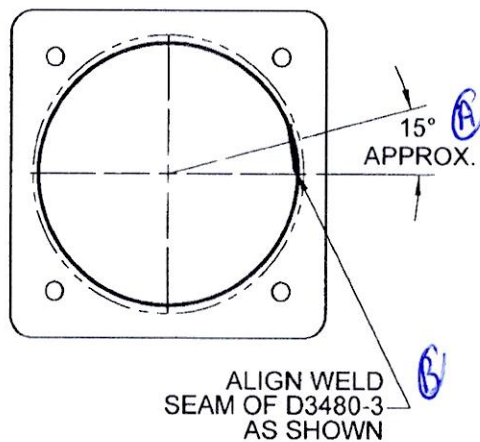
INSPECTION AND CONTROL (FAI 3) FEATURES, VERIFICATION AND CONFORMANCE EVALUATION

DAS
9
9-89
D-0131

1. PART NUMBER		2. PART NAME		3. SERIAL NUMBER		4. FAI REPORT NUMBER	
D3480-041		EYEBALL INLET ADAPTER		N/A		623-1	
CHARACTERISTIC ACCOUNTABILITY				INSPECTION / TEST RESULTS			
6. CHARC #	6. REFERENCE LOCATION	7. CHARACTERISTIC DESIGNATOR	8. REQUIREMENTS	9. RESULTS	10. DESIGNED TOOLING	11. NON-COMFORMANCE NUMBER	14. COMMENTS
A	N/A	N/A	15° APPROX	15°	RAP.ANGLE 37	N/A	N/A
B	N/A	N/A	ALIGN WELD SEAM OF D3480-3 AS SHOWN	PASS	VISUAL	N/A	N/A
C	N/A	N/A	SPOT WELD PARTS. TRIM D3480-3 FLUSH TO SURFACE OF D3480-5 AS REQUIRED	PASS	VISUAL	N/A	N/A
D	N/A	N/A	1.00 ± 0.030	1.01	VERNIER 207	N/A	N/A
E	N/A	N/A	FORM D3480-3 TO FIT D3480-5	PASS	VISUAL	N/A	N/A
F	N/A	N/A		(12) 0.75	VERNIER 207	N/A	N/A
G	N/A	N/A	D3480-5 FLANGE (1)	PASS	VISUAL	N/A	N/A
H	N/A	N/A	D3480-3 TUBE (1)	PASS	VISUAL	N/A	N/A
I	N/A	N/A	SPOT WELD PER DART QSI 004	PASS	VISUAL	N/A	N/A
J	N/A	N/A	FINISH: NONE	N/A	N/A	N/A	N/A
K	N/A	N/A	IDENTIFY WITH DART P/N D3480-043 USING FINE POINT PERMANENT INK MARKER	PASS		N/A	N/A
L	N/A	N/A	TOLERANCE ARE PER DART QSI 018 UNLESS OTHERWISE NOTED	PASS		N/A	N/A
M	N/A	N/A	ALL DIMENSIONS ARE IN INCHES	PASS		N/A	N/A
N	N/A	N/A	BREAK ALL SHARP EDGES 0,005 TO 0,010	PASS	FEEL	N/A	N/A
THE SIGNATURE INDICATES THAT ALL CHARACTERISTICS ARE ACCOUNTED FOR; MEET DRAWING REQUIREMENT OR ARE PROPERLY DOCUMENTED FOR DISPOSITION.							
12. PREPARED BY:					13. DATE		

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3480	REV. C SHEET 1 OF 6
DATE 08.12.19		TITLE EYEBALL ADAPTER	SCALE 1:2
A	06.02.06	NEW ISSUE	
B	06.08.29	D3480-3 0.50 was 0.40/D3480-3F 8.930 was 9.330	
C	08.12.19	D3480-3 PICTORIAL CHG PER D3480-3F (SHT 1 & 4); ADD/REV TOL (SHT 3-5); ADD MFG NOTE (SHT 4); MATL SPEC WAS MIL-S-5019	

RELEASE
09/01/30 MPW**D3480-041 EYEBALL INLET ADAPTER****NOTES:**

- 1) SPOT WELD PER DART QSI 004
- 2) FINISH: NONE
- 3) IDENTIFY WITH DART P/N D3480-041 USING FINE POINT PERMANENT INK MARKER
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.005 TO 0.010

QTY -041	P/N	DESCRIPTION
X	D3480-041	EYEBALL INLET ADAPTER
1	D3480-3	TUBE
1	D3480-5	FLANGE

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RESISTANCE WELDING DATA SHEET AND PQR N° RW-2

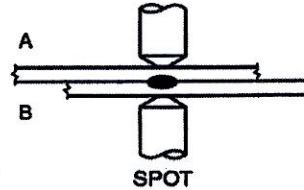
Equipment Identification

Manufacturer: Techno Control

Model: Alpha Series

S/N 3187 Rating 50%

Operator: Frederick Gaudreau



		SIDE A	SIDE B			
MATERIAL	Thickness	0.018"	0.018"	S.C.R.	On	
	Approx. Analysis (type)			Squeeze Time (s)	60	
				Cool Time (s)	0	
	Surface Cond.	Clean *	Clean *	Heat (%)	45	
	Ultimate Strength	N/A	N/A	Hold Time (s)	6	
	Yield Strength	N/A	N/A	Off Time (s)	6	
	Elongation %	---	---	Squeeze Force (Psi)	45	
	Red. In Area %	---	---	Weld Time (s)	10	
	Hardness	---	---			
	Material	AISI 304/316	AISI 304/316			
ELECTRODE	Shape			Tension Test		
	W = 5/8"			TORSIONAL	Yield Point	
	E = 13/64"				Ultimate	
	r = N/A				Mod. Of Rupt.	
a = N/A	Degree Twist at Ult.					
SPOT	Diameter: 3/16" min.			Shear Load Result	1: 560 Lb	
	Overlap or Flange: 0.7" min.				2: 558 Lb	
	Spacing: As per drawing				3: 535 Lb	
SEAM	Roll Speed mm per min. (in. per min.)				4:	
	Spots per mm (in)				5:	
	Width of Weld					
MASH	Overlap or Filler			Indentation: Less than 0.005"		
	Length of Weld			Nugget Size: Over 0.09"		
				Other Tests: See lab report M17011208		
Remarks: Dart Aerospace Ref.: 229 * Clean with alcohol				Photos or sketch		

Company Lev-Fab Inc.
 Authorized By Denis Martel Ing.

Signature



Denis Martel
 CWI 14110007
 QC1 EXP. 11/1/2017



GENITEST INC.



LABORATOIRE D'ESSAIS (Métaux, Matériaux) CONSULTATION - RECHERCHE
TESTING LABORATORY (Metals, Materials) CONSULTING - RESEARCH

AEROSPACE LEV-FAB
640 Boul. Mgr Dubois
St-Jérôme, QC
J7Y 3L8

Report Date
Page

January 19, 2017
1 of 2

TEST REPORT EVALUATION OF RESISTANCE SPOT WELDING PROCEDURE CERTIFICATION

M17011208

		Macroscopic and metallographic examination			
Customer #: A001206		Thickness # 1: 0.018"			
Material: Group 2		Thickness # 2: 0.018"			
Weld Class C		W=0.73"; L=3.0"			
Shape: Isolated Spot Weld Sheet		Sample	# 3	# 4	Acc. Rej.
Test specimens		Contacting Overlap (min. 0.68")	0.73"	0.73"	☒ ☐
Thick. # 1 (sheet):---		Edge distance (0.365" ± 0.060") - 1:	0.375"	0.365"	☒ ☐
Thick. # 2 (sheet):---		-2:	0.355"	0.365"	☒ ☐
Welder:---		Surface Indentations T1 (max. 0.005"):	0.002"	0.002"	☒ ☐
W/O:---		Surface Indentations T2 (max. 0.005"):	0.003"	0.002"	☒ ☐
Testing time:---		Penetration T1 - minimum (min 20% T):	51% T (*)	48% T (*)	☒ ☐
Other:---		-maximum (max 90% T):	62% T	59% T	☒ ☐
Testing Specifications:		Penetration T2 - minimum (min 20% T):	53% T (*)	45% T (*)	☒ ☐
AWS D17-2/D17.2M:2013		-maximum (max 90% T):	65% T	53% T	☒ ☐
=====		Sheet separation (max. 0.006")-Left side:	<0.001"	0.003"	☒ ☐
Visual Inspection		-Right side	0.003"	<0.001"	☒ ☐
ACCEPTED		Discontinuities from the edge of the nugget:	Nil	Nil	☒ ☐
		(Max. : 15% of the nugget radius)	0.009"	0.008"	☒ ☐
		Discontinuities extending into outer sheet:	Nil	Nil	☒ ☐
		(Max.: 50% of the sheet thickness)	0.009"	0.009"	☒ ☐
		The largest discontinuity:	Nil	Nil	☒ ☐
		(Max.: 25% the nugget diameter)	0.029"	0.027"	☒ ☐
		Effective weld nugget size (min. 0.090"):	0.116"	0.107"	☒ ☐
		Penetration and Annulus Zone (figure 7):	Clear	Clear	☒ ☐

ENVIRONMENTAL CONDITIONS DURING TEST

Temperature: 24°C

Pressure: n/a

Relative Humidity: 23%

Comments: Conforming with AWS D17.2/D17.2M:2013.

The thickness of the sheets was measured by Genitest.

(*) More than 80% of the measured nugget diameter exceeds the minimum penetration requirement.

See the next page for supplemental information

TEST DONE IN ACCORDANCE WITH MCLM FC-23 E and BAERD-GEN-018E

ALL INSTRUMENTS ARE CALIBRATED USING STANDARDS AND MEASURING DEVICES TRACEABLE TO NIST (NBS). TECHNICAL PROCEDURES AND SPECIFICATIONS RELATIVE TO Nadcap QUALITY STANDARDS HAVE BEEN FOLLOWED FOR THIS REPORT.

Liability: Genitest Testing's liability to the client or any third party is limited to the amount charged for services provided.

The test report shall not be reproduced except in full, without the written approval of Genitest Inc. and the recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Subcontractor: NIL

Document #GT-WF311-02

Jean Lavoie, PE Metallurgist

Supplemental Information

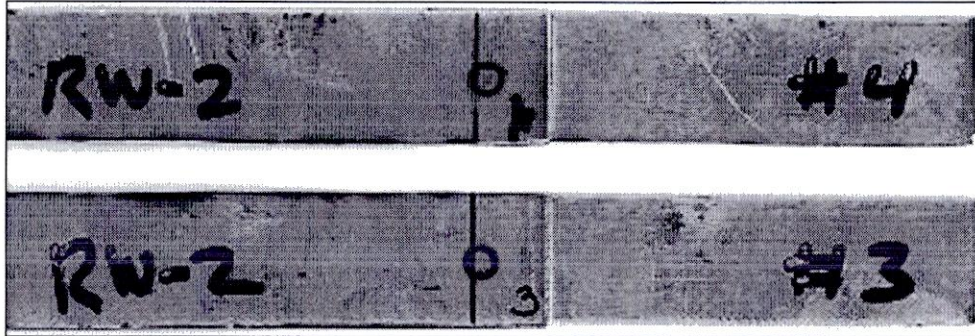


Figure 1 – Specimens as received for metallographic evaluation

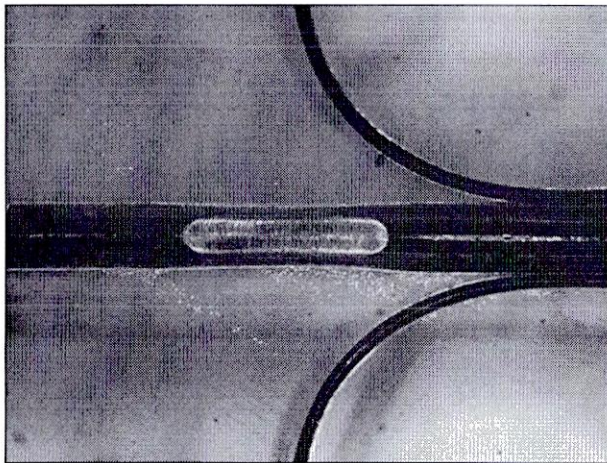


Figure 2 – Transverse section through the mid of the spot weld no 3 – Etchant: Vilella's - Magnification 10x 1 mm

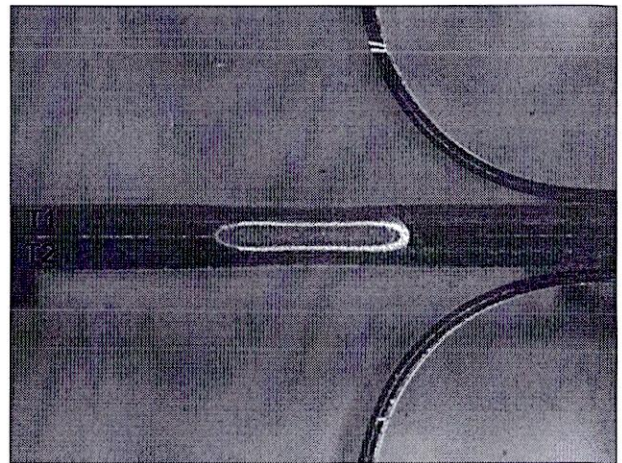


Figure 3 – Transverse section through the mid of the spot weld no 4 – Etchant: Vilella's - Magnification 10x 1 mm



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TESTING LABORATORY (Metals, Materials) CONSULTING - RESEARCH

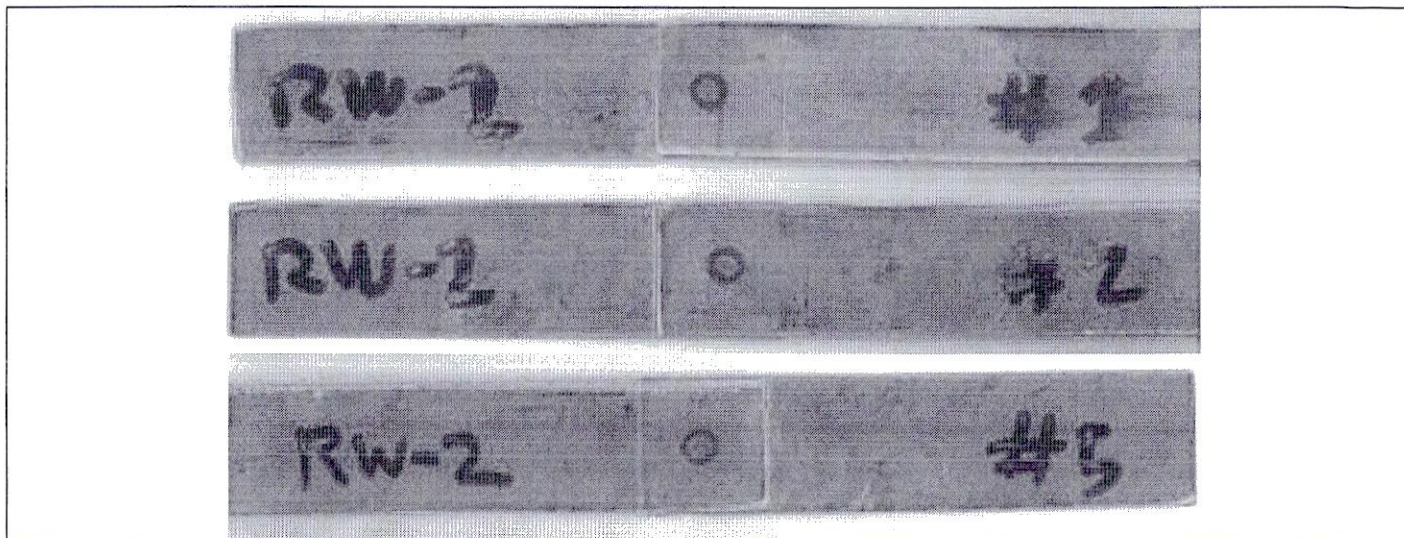
AEROSPACE LEV-FAB
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St-Jérôme, QC
J7Y 3L8

Report Date
Page

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TEST REPORT
SHEAR TEST

L17011208



Customer #: A001206	Sample #:	LOAD
Specification: AWS D17-2		(lb _f)
Material: ---	1	560
Shape: Shear test sample	2	558
Dimensions: 0.018" thick.	5	535
Testing Spec.: ASTM E8-15	Average	551

ENVIRONMENTAL CONDITIONS DURING TEST
Comments:

Temperature: 21°C

Pressure: n/a

Relative Humidity: 24%

TEST DONE IN ACCORDANCE WITH MCLM F-23C and BAERD-GEN-018E

ALL INSTRUMENTS ARE CALIBRATED USING STANDARDS AND MEASURING DEVICES TRACEABLE TO NIST (NBS).

TECHNICAL PROCEDURES AND SPECIFICATIONS RELATIVE TO Nadcap AND ISO/IEC 17025 QUALITY STANDARDS HAVE BEEN FOLLOWED FOR THIS REPORT.

Limited Liability: Genitest Testing's liability to the client or any third party is limited to the amount charged for services provided.

The test report shall not be reproduced except in full, without the written approval of Genitest Inc. and the recording of false, fictitious, or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

Subcontractor: NIL

Document #GT-ED311-02


Jean Lavoie, PE Metallurgist



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34695**

Purchase Order Date 12/20/2016

PO Print Date 12/20/2016

Page Number 1 of 2

Order From :
AEROSPACE LEV-FAB
640 BOUL. MGR. DUBOIS
ST JEROME, QUEBEC J7Y 3L8

VC-ALF01

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone 514-876-8787

Ship To Contact
Ship To Phone
Ship Via: FedEx Economy collect
Ship Acct:

Buyer Linda Lacelle
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	154263	D3480-041	1/10/2017 No 1/10/2017		2.00	\$0.00	\$0.00
	spot weld per drwg and QSI005						
						Line Total:	\$0.00
2	154262	D3480-043	1/10/2017 No 1/10/2017		2.00	\$0.00	\$0.00
	spot weld per drwg and QSI005						
						Line Total:	\$0.00
3	154264	D3479-041	1/10/2017 No 1/10/2017		2.00	\$0.00	\$0.00
	spot weld per drwg and QSI005						

PO Instructions: Fedex Acct # 151793240

Note:

12/20/2016



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34695**

Purchase Order Date 12/20/2016

PO Print Date 12/20/2016

Page Number 2 of 2

Order From :

VC-ALF01

Ship To : DART AEROSPACE LTD

AEROSPACE LEV-FAB
640 BOUL. MGR. DUBOIS
ST JEROME, QUEBEC J7Y 3L8

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name**Vendor Phone**

514-876-8787

Ship To Contact**Ship To Phone****Ship Via:**

FedEx Economy collect

Ship Acct:**Buyer**

Linda Lacelle

Customer POID**Customer Tax #**

10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

Line Total: \$0.00

4	71401-45	PROCUREMENT QUALITY CLAUSE	1/10/2017	1.00	\$0.00	\$0.00
---	----------	-------------------------------	-----------	------	--------	--------

No

1/10/2017

Procurement Quality Clauses

A004 faa-pma/tso

A005 right of entry

A008 first article inspection (FAI documentation maintained by
seller Documentation sent to Dart Aerospace)

A016 personnel qualification

A026 certification of materila conformance

A040 notification of escape clauses

A042 dart notification by supplier

A043 retention of quality document

Line Total: \$0.00

5	71401-45	FAI - 2 samples B154684	1/10/2017	2.00	\$0.00	\$0.00
---	----------	-------------------------	-----------	------	--------	--------

No

1/10/2017

Line Total: \$0.00

PO Total: \$0.00

PO Instructions: Fedex Acct # 151793240

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 12/20/2016

DART AEROSPACE LTD

QUALITY SYSTEM INSTRUCTION: QSI 018

TITLE: Standard Tolerances

ISSUE: 03

DATE: November 30, 2004

PREPARED BY: David Shepherd

REVIEWED

**Linda Lacelle
PRODUCTION MANAGER**

**David Shepherd
CHIEF ENGINEER**

**Bill Beckett
DESIGN MANAGER**

APPROVED BY:

**Susanne Sheldon
DIRECTOR, QUALITY ASSURANCE**

STANDARD TOLERANCES

Procedure Issue Date: 04.11.30 Issue No: 03

1.0 PURPOSE

To establish the tolerances for DART production

2.0 SCOPE

This work instruction applies to all parts manufactured, or designed by DART, unless otherwise stated on a drawing

3.0 RESPONSIBILITY**3.1 PRODUCTION MANAGER**

Has the responsibility of ensuring the tolerances are being followed

3.2 DIRECTOR, QUALITY ASSURANCE

Is responsible for auditing that the tolerances are being followed.

4.0 PROCEDURE**4.1** Follow the following requirements (unless otherwise stated):

1. Dimensions are in inches.
2. Surface roughness 125✓. (Visual inspection accepted).
3. Remove sharp edges .015 max.
4. Threads per MIL-S-7742
5. Holes per the following table: (source: AND10387)

Hole Diameter	Tolerance
0.0135 to 0.125	+ 0.004 / – 0.001
0.126 to 0.250	+ 0.005 / – 0.001
0.251 to 0.500	+ 0.006 / – 0.001
0.501 to 0.750	+ 0.008 / – 0.001
0.751 to 1.000	+ 0.010 / – 0.001
1.001 to 2.000	+ 0.012 / – 0.001

6. Dimensions:

X.X	+/- 0.100
X.XX	+/- 0.030
X.XXX	+/- 0.010
7. Angles

	+/- 1/2°
--	----------
8. Parallelism

	+/- 0.0025
--	------------
9. Eccentricity

	0.005 Max
--	-----------
10. Symmetry about all M/C center lines

	0.005
--	-------

STANDARD TOLERANCES

Procedure Issue Date: 04.11.30 Issue No: 03

REVISION RECORD: B

PAGE	PAGE REV.	SUBJECT	DATE	INITIAL	DQA
1	A	No change			
2	B	Revised issue page	06.08.03		
3	B	Revised Section 4.1	06.08.03		

